

**A1**  
**West Sussex Minerals Plan**  
**Site A : Broadley Copse**  
**Agricultural Land Classification.**  
**ALC Map and Report**  
**May 1995**

# AGRICULTURAL LAND CLASSIFICATION REPORT

## WEST SUSSEX MINERALS PLAN SITE A : BROADLEY COPSE

### 1. Summary

- 1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in West Sussex. The work forms part of MAFF's statutory input to the preparation of the West Sussex Minerals Plan.
- 1.2 Site A comprises 33.2 hectares of land to the north-west of Chichester in West Sussex. An Agricultural Land Classification (ALC) survey was carried out during April 1995. The survey was undertaken at a detailed level of approximately one boring per hectare of agricultural land surveyed. A total of 20 borings and two soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture
- 1.3 The survey work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.
- 1.4 At the time of the survey the eastern half of the site (east of the B2146 mapped as urban) was woodland along with small areas of the western half. The agricultural land on the site was all under winter cereals. Non-agricultural areas include a farm track and scrub whilst farm buildings are marked along the western boundary.
- 1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

**Table 1 : Distribution of Grades and Subgrades**

Grade	Area (ha)	% of Site	% of Agricultural Land
3b	15.7	47.3	90.8
4	1.6	4.8	<u>9.2</u>
Woodland	13.0	39.2	100.0 (17.3 ha)
Non-Agricultural	1.7	5.1	
Agricultural Buildings	0.7	2.1	
Urban	<u>0.5</u>	<u>1.5</u>	
Total area of site	33.2	100.0	

- 1.6 Appendix 1 gives a general description of the grades, subgrades and land use categories identified in this survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and expected level and consistency of yield.
- 1.7 The agricultural land has been mapped as Subgrade 3b, moderate quality land, with a small area of Grade 4, poor quality land towards the western boundary. The land is limited in its agricultural use by soil droughtiness and/or topsoil stoniness. Across much of the site moderately to very stony silty clay loam soils overlie gravelly horizons at relatively shallow depth. Such soils have low reserves of profile available water. Crops are likely to suffer drought stress as a result, and yield potential will be restricted. Topsoil stoniness is limiting across most of the site, and more so towards the west where Grade 4 has been mapped. Topsoil stones cause wear and tear to farm machinery and act as an impediment to germination, crop growth and cultivations.

## 2. Climate

- 2.1 Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained by interpolation from a 5 km grid point dataset (Met. Office, 1989) for a representative location in the survey area.

**Table 2: Climatic Interpolation**

Grid Reference	SU 812 085
Altitude (m, AOD)	45
Accumulated Temperature (day degrees C, Jan-June)	1498
Average Annual Rainfall (mm)	851
Field Capacity Days	180
Moisture Deficit, wheat (mm)	108
Moisture Deficit, potatoes (mm)	103
Overall Climatic Grade	1

- 2.2 Climatic factors are considered first when classifying land since climate can be overriding in the sense that adverse climatic conditions may restrict land quality irrespective of favourable site and soil conditions. The details in the table above show that there is no overall climatic limitation affecting this site. In addition, no local climatic factors, such as exposure or frost risk, are believed to affect the site.
- 2.3 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality, the climate is relatively warm and moist in regional terms, thereby partially offsetting soil droughtiness problems.

### **3. Relief**

- 3.1 The site lies at an altitude of 35-55 m AOD, falling gently from the north-west towards the south-east. A small dry valley exists towards the western site boundary. Nowhere on the site do gradient or relief affect land quality.

### **4. Geology and Soils**

- 4.1 British Geological Survey (1972) sheet 317, shows the site to be underlain by Valley Gravel.
- 4.2 Soil Survey of Great Britain (1967) sheet SU80 shows the site to comprise soils of the Charity series, much of the site being mapped as the extremely flinty phase. These soils are described as 'well drained, fine silty and fine silty over clayey soils, locally very flinty, some shallow over flint gravel' (SSEW, 1983).
- 4.3 Detailed field examination of the soils on the site confirmed the presence of soils similar to those described by the Soil Survey.

### **5. Agricultural Land Classification**

- 5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.
- 5.2 The location of the soil observation points are shown on the attached sample point map.

#### **Subgrade 3b**

- 5.3 Moderate quality land has been mapped across most of the agricultural land surveyed. It is associated with shallow, flinty soils overlying gravel which as such are droughty.
- 5.4 Profiles typically comprise non-calcareous medium silty clay loam, or very occasionally, silt loam topsoils which were found to contain 20-45% total flints by volume, of which 16-32% are >2 cm in diameter. Profiles were found to either be impenetrable directly below the topsoil or pass to medium or heavy silty clay loam upper subsoils having 15-50% total flints, before becoming impenetrable at 35-65 cm. Two soil inspection pits indicated that the impenetrable horizons comprised at least 45-50% flints, and were tending to become more stony with depth.
- 5.5 Moisture balance calculations for such gravelly and shallow soils indicate that, given the prevailing climatic regime, there are inadequate reserves of soil moisture to meet the demands of growing crops, especially during the drier parts of the year. As a result, plants are likely to suffer severe drought stress and yield potential will be adversely affected.

- 5.6 In addition to this significant soil droughtiness restriction, the land is also limited to Subgrade 3b by topsoil stoniness. The volume of stones >2 cm in size were measured by sieving as being in the range 16-32%. These stones will affect the effectiveness of precision drilling, as well as seed germination and growth. The wear and tear to farm machinery as a result of cultivations is likely to be considerable.

#### **Grade 4**

- 5.4 Poor quality land has been mapped towards the western site boundary where soils are similar, but more stony and shallower than the adjacent Subgrade 3b soils. Topsoil stone contents are greater, particularly those >6 cm in size and subsoils are extremely stony. Reserves of profile available water will be severely restricted leading to severe soil droughtiness, whilst very stony topsoils will adversely affect the success of cultivations and cropping.

ADAS Ref: 4203/062/95  
MAFF Ref: EL42/228

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

## **SOURCES OF REFERENCE**

- British Geological Survey (1972) Sheet 317, Chichester, 1:50,000
- MAFF (1988) Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land.
- Meteorological Office (1989) Agroclimatic datasets for Agricultural Land Classification.
- Soil Survey of England and Wales (1983) Sheet 6, Soils of South-East England and accompanying legend.
- Soil Survey of Great Britain (1967) Sheet SU80, Soils of the West Sussex Coastal Plain and accompanying legend.

## APPENDIX I

### DESCRIPTION OF THE GRADES AND SUBGRADES

#### **Grade 1 : Excellent Quality Agricultural Land**

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

#### **Grade 2 : Very Good Quality Agricultural Land**

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

#### **Grade 3 : Good to Moderate Quality Land**

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

#### **Subgrade 3a : Good Quality Agricultural Land**

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

#### **Subgrade 3b : Moderate Quality Agricultural Land**

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

#### **Grade 4 : Poor Quality Agricultural Land**

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (eg. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

#### **Grade 5 : Very Poor Quality Agricultural Land**

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

## **Urban**

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

## **Non-agricultural**

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

## **Woodland**

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

## **Agricultural Buildings**

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

## **Open Water**

Includes lakes, ponds and rivers as map scale permits.

## **Land Not Surveyed**

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.



## APPENDIX II

### FIELD ASSESSMENT OF SOIL WETNESS CLASS

#### SOIL WETNESS CLASSIFICATION

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

#### Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging <sup>1</sup>
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. <sup>2</sup>
II	The soil profile is wet within 70 cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

<sup>1</sup>The number of days specified is not necessarily a continuous period.

<sup>2</sup>'In most years' is defined as more than 10 out of 20 years.

## **APPENDIX III**

### **SOIL PIT AND SOIL BORING DESCRIPTIONS**

#### **Contents :**

**Soil Abbreviations - Explanatory Note**

**Soil Pit Descriptions**

**Database Printout - Boring Level Information**

**Database Printout - Horizon Level Information**

## SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

### Boring Header Information

1. **GRID REF** : national 100 km grid square and 8 figure grid reference.
2. **USE** : Land use at the time of survey. The following abbreviations are used.

<b>ARA</b> : Arable	<b>WHT</b> : Wheat	<b>BAR</b> : Barley
<b>CER</b> : Cereals	<b>OAT</b> : Oats	<b>MZE</b> : Maize
<b>OSR</b> : Oilseed rape	<b>BEN</b> : Field Beans	<b>BRA</b> : Brassicae
<b>POT</b> : Potatoes	<b>SBT</b> : Sugar Beet	<b>FCD</b> : Fodder Crops
<b>LIN</b> : Linseed	<b>FRT</b> : Soft and Top Fruit	<b>FLW</b> : Fallow
<b>PGR</b> : Permanent Pasture	<b>LEY</b> : Ley Grass	<b>RGR</b> : Rough Grazing
<b>SCR</b> : Scrub	<b>CFW</b> : Coniferous Woodland	<b>DCW</b> : Deciduous Wood
<b>HTH</b> : Heathland	<b>BOG</b> : Bog or Marsh	<b>FLW</b> : Fallow
<b>PLO</b> : Ploughed	<b>SAS</b> : Set aside	<b>OTH</b> : Other
<b>HRT</b> : Horticultural Crops		

3. **GRDNT** : Gradient as estimated or measured by a hand-held optical clinometer.
4. **GLEYSPL** : Depth in centimetres (cm) to gleying and/or slowly permeable layers.
5. **AP (WHEAT/POTS)** : Crop-adjusted available water capacity.
6. **MB (WHEAT/POTS)** : Moisture Balance. (Crop adjusted AP - crop adjusted MD)
7. **DRT** : Best grade according to soil droughtiness.
8. If any of the following factors are considered significant, 'Y' will be entered in the relevant column.

<b>MREL</b> : Microrelief limitation	<b>FLOOD</b> : Flood risk	<b>EROSN</b> : Soil erosion risk
<b>EXP</b> : Exposure limitation	<b>FROST</b> : Frost prone	<b>DIST</b> : Disturbed land
<b>CHEM</b> : Chemical limitation		

9. **LIMIT** : The main limitation to land quality. The following abbreviations are used.

<b>OC</b> : Overall Climate	<b>AE</b> : Aspect	<b>EX</b> : Exposure
<b>FR</b> : Frost Risk	<b>GR</b> : Gradient	<b>MR</b> : Microrelief
<b>FL</b> : Flood Risk	<b>TX</b> : Topsoil Texture	<b>DP</b> : Soil Depth
<b>CH</b> : Chemical	<b>WE</b> : Wetness	<b>WK</b> : Workability
<b>DR</b> : Drought	<b>ER</b> : Erosion Risk	<b>WD</b> : Soil Wetness/Droughtiness
<b>ST</b> : Topsoil Stoniness		

## Soil Pits and Auger Borings

1. **TEXTURE** : soil texture classes are denoted by the following abbreviations.

<b>S</b> : Sand	<b>LS</b> : Loamy Sand	<b>SL</b> : Sandy Loam
<b>SZL</b> : Sandy Silt Loam	<b>CL</b> : Clay Loam	<b>ZCL</b> : Silty Clay Loam
<b>ZL</b> : Silt Loam	<b>SCL</b> : Sandy Clay Loam	<b>C</b> : Clay
<b>SC</b> : Sandy Clay	<b>ZC</b> : Silty Clay	<b>OL</b> : Organic Loam
<b>P</b> : Peat	<b>SP</b> : Sandy Peat	<b>LP</b> : Loamy Peat
<b>PL</b> : Peaty Loam	<b>PS</b> : Peaty Sand	<b>MZ</b> : Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

<b>F</b> : Fine (more than 66% of the sand less than 0.2mm)
<b>M</b> : Medium (less than 66% fine sand and less than 33% coarse sand)
<b>C</b> : Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content: **M** : Medium (<27% clay) **H** : Heavy (27-35% clay)

2. **MOTTLE COL** : Mottle colour using Munsell notation.
3. **MOTTLE ABUN** : Mottle abundance, expressed as a percentage of the matrix or surface described.

**F** : few <2% **C** : common 2-20% **M** : many 20-40% **VM** : very many 40% +

4. **MOTTLE CONT** : Mottle contrast

**F** : faint - indistinct mottles, evident only on close inspection  
**D** : distinct - mottles are readily seen  
**P** : prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. **PED. COL** : Ped face colour using Munsell notation.
6. **GLEYS** : If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.
7. **STONE LITH** : Stone Lithology - One of the following is used.

<b>HR</b> : all hard rocks and stones	<b>SLST</b> : soft oolitic or dolimitic limestone
<b>CH</b> : chalk	<b>FSST</b> : soft, fine grained sandstone
<b>ZR</b> : soft, argillaceous, or silty rocks	<b>GH</b> : gravel with non-porous (hard) stones
<b>MSST</b> : soft, medium grained sandstone	<b>GS</b> : gravel with porous (soft) stones
<b>SI</b> : soft weathered igneous/metamorphic rock	

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

8. **STRUCT** : the degree of development, size and shape of soil peds are described using the following notation:

degree of development    **WK** : weakly developed    **MD** : moderately developed  
   **ST** : strongly developed

ped size                    **F** : fine                                    **M** : medium  
   **C** : coarse                                **VC** : very coarse

ped shape                    **S** : single grain                        **M** : massive  
   **GR** : granular                            **AB** : angular blocky  
   **SAB** : sub-angular blocky        **PR** : prismatic  
   **PL** : platy

9. **CONSIST** : Soil consistence is described using the following notation:

**L** : loose    **VF** : very friable    **FR** : friable    **FM** : firm    **VM** : very firm  
**EM** : extremely firm                    **EH** : extremely hard

10. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness : **G** : good    **M** : moderate    **P** : poor

11. **POR** : Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.

12. **IMP** : If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

13. **SPL** : Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC** : If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations

**APW** : available water capacity (in mm) adjusted for wheat

**APP** : available water capacity (in mm) adjusted for potatoes

**MBW** : moisture balance, wheat

**MBP** : moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : W. SUSSEX MINS, SITE A Pit Number : 1P

Grid Reference: SU81100870 Average Annual Rainfall : 851 mm  
 Accumulated Temperature : 1498 degree days  
 Field Capacity Level : 180 days  
 Land Use : Cereals  
 Slope and Aspect : 01 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 29	MZCL	10YR53 00	25	40	HR					
29- 44	MZCL	10YR54 00	0	42	HR				M	
44- 60	HZCL	75YR56 00	0	42	HR				M	

Wetness Grade : 2 Wetness Class : I  
 Gleying : cm  
 SPL : No SPL

Drought Grade : 3B APW : 62 mm MBW : -46 mm  
 APP : 66 mm MBP : -37 mm

FINAL ALC GRADE : 3B

MAIN LIMITATION : Topsoil Stoniness

SOIL PIT DESCRIPTION

Site Name : W. SUSSEX MINS, SITE A Pit Number : 2P

Grid Reference: SUB1300850 Average Annual Rainfall : 851 mm  
 Accumulated Temperature : 1498 degree days  
 Field Capacity Level : 180 days  
 Land Use : Cereals  
 Slope and Aspect : 01 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MZCL	10YR43 00	17	30	HR					
25- 58	MZCL	10YR54 00	0	20	HR		MOCSAB	FR	M	
58- 70	HZCL	10YR56 00	0	50	HR				M	

Wetness Grade : 2 Wetness Class : I  
 Gleying : cm  
 SPL : No SPL

Drought Grade : 3B APW : 81 mm MBW : -27 mm  
 APP : 90 mm MBP : -13 mm

FINAL ALC GRADE : 3B  
 MAIN LIMITATION : Topsoil Stoniness

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	--WETNESS--				-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
					GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT		
1	SU81000880	CER	W	02		1	2	35	-73	35	-68	4					ST	3B	Impen 30
1P	SU81100870	CER	S	01		1	2	62	-46	66	-37	3B					ST	3B	Also DR
2P	SU81300850	CER	S	01		1	2	81	-27	90	-13	3B					ST	3B	Also DR
3	SU81300880	CER	E	01		1	2	44	-64	44	-59	4					ST	3B	Impen 30
5	SU81000870	PIG	E	02		1	2	38	-70	38	-65	4					ST	3B	Impen 30
6	SU81100870	CER	S	01		1	2	35	-73	35	-68	4					ST	3B	Impen 30
7	SU81200870	CER				1	2	44	-64	44	-59	4					ST	3B	Impen 31
8	SU81300870	CER	E	01		1	2	38	-70	38	-65	4					ST	3B	Impen 30
9	SU81400870	CER	E	02		1	2	93	-15	103	0	3A					ST	3B	Impen 65
10	SU81000860	CER	E	02	028	2	2	39	-69	39	-64	4					ST	3B	Impen 35
11	SU81100860	CER				1	1	57	-51	57	-46	4					ST	3B	Impen 45
12	SU81200860	CER				1	1	43	-65	43	-60	4					ST	3B	Impen 35
13	SU81300860	CER	S	01	028	2	2	46	-62	46	-57	4					ST	3B	Impen 40
14	SU81400860	CER			030	2	2	67	-41	67	-36	3B					ST	3B	Impen 50
15	SU81000850	CER				1	2	58	-50	58	-45	3B					ST	3B	Impen 40
16	SU81100850	CER				1	2	67	-41	67	-36	3B					ST	3B	Impen 50
17	SU81200850	CER				1	2	43	-65	43	-60	4					ST	3B	Impen 35
18	SU81300850	CER				1	2	72	-36	77	-26	3B					ST	3B	Impen 60
19	SU81400850	CER	NE	01		1	2	57	-51	57	-46	4					ST	3B	Impen 40
24	SU81200840	CER				1	2	65	-43	65	-38	3B					ST	3B	Impen 50
25	SU81300840	CER			030	2	2	75	-33	78	-25	3B					DR	3B	See 2P
26	SU81400840	CER				1	2	62	-46	62	-41	3B					ST	3B	Sl. gley 30



SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED	---STONES---			STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT	COL.	GLE	>2	>6		LITH	TOT	STR		POR
1	0-30	mzc1	10YR42 00					32	7	HR	42					Impen 30 flints
1P	0-29	mzc1	10YR53 00					25	3	HR	40					
	29-44	mzc1	10YR54 00					0	0	HR	42		M			
	44-60	hzc1	75YR56 00					0	0	HR	42		M			Pit dug to 60
2P	0-25	mzc1	10YR43 00					17	9	HR	30					
	25-58	mzc1	10YR54 00					0	0	HR	20	MDCSAB	FR	M		
	58-70	hzc1	10YR56 00					0	0	HR	50		M			Pit dug to 70
3	0-30	mzc1	10YR43 53					16	3	HR	25					Impen 30 flints
5	0-30	mzc1	10YR43 00					20	7	HR	35					Impen 30 flints
6	0-30	mzc1	10YR53 00					25	3	HR	40					Impen 30 flints
7	0-31	mzc1	10YR53 00					16	1	HR	27					Impen 31 flints
8	0-30	mzc1	10YR53 00					18	1	HR	35					Impen 30 flints
9	0-28	mzc1	10YR43 53					17	0	HR	20					
	28-60	hzc1	10YR54 56					0	0	HR	2		M			
	60-65	hzc1	10YR54 00					0	0	HR	30		M			Impen 65 flints
10	0-28	mzc1	10YR43 00					22	15	HR	40					
	28-35	c	25Y 53 00	10YR58 00	M		Y	0	0	HR	50		M			Impen 35 flints
11	0-28	mzc1	10YR43 00					21	8	HR	30					
	28-45	hzc1	75YR54 00					0	0	HR	35		M			Impen 45 flints
12	0-28	mzc1	10YR43 00					21	5	HR	35					
	28-35	mzc1	10YR64 00					0	0	HR	40		M			Impen 35 flints
13	0-28	mzc1	10YR43 00					25	10	HR	40					
	28-40	mzc1	25Y 63 00	10YR66 00	C		Y	0	0	HR	40		M			Impen 40 flints
14	0-30	mzc1	10YR43 00					23	12	HR	35					
	30-50	hzc1	10YR54 64	10YR56 00	C	00MN00	00	Y	0	0	HR	15		M		Impen 50 flints
15	0-27	z1	10YR42 00					20	12	HR	30					
	27-40	mzc1	10YR56 00					0	0	HR	40		M			Impen 40 flints
16	0-25	mzc1	10YR44 00					16	7	HR	30					
	25-50	mzc1	10YR56 00					0	0	HR	25		M			Impen 50 flints
17	0-27	mzc1	10YR43 00					25	13	HR	35					
	27-35	mzc1	10YR56 00					0	0	HR	40		M			Impen 35 flints

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/	SUBS						
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
18	0-25	mzc1	10YR43 00					17	9	HR	30							
	25-50	mzc1	10YR56 00					0	0	HR	30							M
	50-60	hzc1	10YR56 00	00MNO0	00	C		0	0	HR	30							M
19	0-30	z1	10YR43 00					23	13	HR	35							
	30-40	mzc1	75YR56 00					0	0	HR	35							M
24	0-25	mzc1	10YR44 00					18	8	HR	30							
	25-50	mzc1	75YR56 00					0	0	HR	30							M
25	0-30	mzc1	10YR43 00					13	5	HR	25							
	30-55	mzc1	10YR53 00	10YR56	66	C		Y	0	0	HR	20						M
26	0-30	mzc1	10YR43 00					16	8	HR	25							
	30-45	mzc1	10YR54 00	10YR56	00	C		S	0	0	HR	30						M

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OM SITE 16 Pit Number : 1P

Grid Reference: SZ27559350 Average Annual Rainfall : 806 mm  
 Accumulated Temperature : 1544 degree days  
 Field Capacity Level : 167 days  
 Land Use : Permanent Grass  
 Slope and Aspect : 02 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 23	MCL	10YR41 00	2	5	HR					
23- 40	MCL	10YR43 00	0	35	HR		MDCSAB	FR	M	
40- 45	HCL	10YR44 00	0	50	HR				M	
45-120	GH		0	0					P	

Wetness Grade : 1 Wetness Class : I  
 Gleying : cm  
 SPL : cm

Drought Grade : 3B APW : 070mm MBW : -42 mm  
 APP : 067mm MBP : -41 mm

FINAL ALC GRADE : 3B  
 MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OM SITE 16 Pit Number : 2P

Grid Reference: SZ28009320 Average Annual Rainfall : 806 mm  
 Accumulated Temperature : 1544 degree days  
 Field Capacity Level : 167 days  
 Land Use : Permanent Grass  
 Slope and Aspect : 01 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 32	MCL	10YR43 00	1	3	HR					
32- 55	HCL	10YR44 00	0	5	HR		MDCSAB	FM	M	
55- 60	HCL	10YR54 00	0	43	HR				M	
60- 70	C	10YR54 00	0	50	HR				M	
70- 75	SCL	10YR54 00	0	50	HR				M	
75- 80	LMS	75YR46 56	0	30	HR				M	
80-120	MS	75YR46 56	0	30	HR				M	

Wetness Grade : 1 Wetness Class : I  
 Gleying : cm  
 SPL : cm

Drought Grade : 3A APW : 111mm MBW : -1 mm  
 APP : 104mm MBP : -4 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OM SITE 16 Pit Number : 3P

Grid Reference: SZ28009360 Average Annual Rainfall : 806 mm  
 Accumulated Temperature : 1544 degree days  
 Field Capacity Level : 167 days  
 Land Use : Permanent Grass  
 Slope and Aspect : 01 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MCL	10YR51 00	2	3	HR	C				
30- 55	HCL	10YR53 00	0	2	HR	M	MDCSAB	FR	M	
55- 77	C	10YR52 00	0	2	HR	M	WKCSAB	FM	P	
77- 85	C	10YR61 00	0	60	HR	C				P

Wetness Grade : 3A Wetness Class : III  
 Gleying : 0 cm  
 SPL : 055 cm

Drought Grade : 3A APW : 106mm MBW : -6 mm  
 APP : 111mm MBP : 3 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Soil Wetness/Droughtiness

SAMPLE NO.	GRID REF	USE	ASPECT	--WETNESS--				-WHEAT-		-POTS-		M.REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC COMMENTS
				GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT				
1	SZ27709370	PGR	E	01			1	1	122	10	114	6	2		DR	2	IMP 90, GH
1P	SZ27559350	PGR	E	02			1	1	070	-42	067	-41	3B		DR	3B	
2	SZ27809370	PGR			085		1	1	152	40	118	10	2		DR	2	SL GLEY 85
2	SZ28009320	PGR	W	01			1	1	111	-1	104	-4	3A		DR	3A	
3	SZ27909370	PGR			0		2	2	089	-23	092	-16	3B		DR	3A	IMP, 3A TO 120
3	SZ28009360	PGR	E	01	0	055	3	3A	106	-6	111	3	3A		WD	3A	IMP 85
4	SZ27429360	PGR	N	02	038		2	2	085	-27	086	-22	3B		DR	3A	IMP, 3A TO 120
5	SZ27509360	PGR	N	01	022	048	3	3A	147	35	108	0	2		WE	3A	SPL 48
6	SZ27609360	PGR			025		2	2	083	-29	083	-25	3B		DR	3A	IMP, 3A TO 120
7	SZ27709360	PGR	W	02	0	042	4	3B	108	-4	102	-6	3A		WE	3B	SPL 42
8	SZ27809360	PGR	W	01	048		1	1	113	0	115	6	3A		DR	3A	IMP 80
9	SZ27909360	LEY	SW	01	0	045	3	3A	000	0	000	0			WE	3A	SPL 45
10	SZ28009360	LEY	E	01	0	052	3	3A	103	-9	111	3	3A		WE	3A	SPL 52
11	SZ27309350	LEY			045		1	1	136	24	117	9	2		DR	2	IMP 99
12	SZ27409350	LEY					1	1	091	-21	094	-14	3B		DR	3A	IMP, 3A TO 120
13	SZ27529352	PGR	E	01			1	1	083	-29	085	-23	3B		DR	3A	IMP, 3A TO 120
14	SZ27609350	PGR	E	02	038		2	2	083	-29	084	-24	3B		DR	3A	IMP, 3A TO 120
15	SZ27709350	PGR	E	01	0	070	3	3A	145	33	117	9	2		WE	3A	
15	SZ27759348	PGR			0	040	4	3B	000	0	000	0			WE	3B	IMP 82
16	SZ27809350	LEY	SW	01			1	1	110	-2	111	3	3A		DR	3A	IMP 95
17	SZ27909350	LEY			0		2	2	134	22	116	8	2		WD	2	IMP 100
18	SZ28009350	LEY	E	01	025		2	2	102	-10	113	5	3A		DR	3A	
19	SZ27109340	LEY					1	1	131	19	119	11	2		DR	2	SL GLEY 58
20	SZ27209340	LEY					1	1	139	27	112	4	2		DR	2	
21	SZ27809340	LEY	W	01			1	1	115	3	117	9	3A		DR	2	IMP, 2 TO 120
22	SZ27909340	LEY			090		1	1	142	30	118	10	2		DR	2	SL GLEY 60
23	SZ28009340	LEY	E	01			1	1	113	1	118	10	3A		DR	2	SL GLEY 58
24	SZ28109340	LEY	E	01	068		1	1	111	-1	117	9	3A		DR	2	SL GLEY 48
25	SZ27009330	LEY					1	1	119	7	118	10	2		DR	2	SL GLEY 54
26	SZ27109330	LEY					1	1	142	30	119	11	1				1
27	SZ27209330	LEY					1	1	120	8	118	10	2		DR	2	SL GLEY 48
27	SZ27279332	LEY			0		2	2	114	2	116	8	3A		WD	2	WETPATCH
28	SZ27809330	LEY	S	01			1	1	075	-37	075	-33	3B		DR	3B	IMP 45
28A	SZ27759325	LEY	W	01	080		1	1	127	15	108	0	2		DR	2	SL GLEY 48
29	SZ27909330	LEY	SW	01			1	1	115	3	117	9	3A		DR	2	ALMOST 3A
30	SZ28009330	LEY					1	1	112	0	118	10	3A		DR	3A	SL GLEY 48
31	SZ28109330	LEY					1	1	088	-24	092	-16	3B		DR	3A	SL GLEY 50
32	SZ28209330	LEY	NE	01			1	1	101	-11	111	3	3A		DR	3A	IMP 68
33	SZ27009320	LEY					1	1	124	12	118	10	2		DR	2	SL GLEY 0
34	SZ27809320	LEY	E	01			1	1	089	-23	096	-12	3B		DR	3A	ALMOST 3B
35	SZ27909320	LEY	W	01			1	1	080	-32	083	-25	3B		DR	3B	IMP 60
36	SZ28009320	LEY	W	01			1	1	096	-16	101	-7	3A		DR	3A	IMP 62

SAMPLE NO.	GRID REF	ASPECT USE	GRDNT	GLEYS	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
					CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD					
37	SZ28109320	LEY			1	1	127	15	118	10	2				DR	2	SL GLEY 80
38	SZ28209320	LEY E	01		1	1	114	2	118	10	3A				DR	2	SL GLEY 65
39	SZ28309320	LEY E	01	028	2	2	134	22	115	7	2				WD	2	
40	SZ28009310	LEY W	01		1	1	101	-11	088	-20	3A				DR	3A	IMP 88
41	SZ28109310	LEY E			1	1	109	-3	118	10	3A				DR	2	IMP 75
42	SZ28059302	LEY NW	01		1	1	079	-33	079	-29	3B				DR	3B	IMP 47

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---		PED	---STONES---			STRUCT/	SUBS	IMP	SPL	CALC	
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH				TOT
1	0-33	mc1	10YR43 00					0	0	HR	2				
	33-50	hc1	10YR43 00					0	0	HR	5	M			
	50-63	mc1	10YR44 00					0	0	HR	5	M			
	63-85	ms1	10YR54 00					0	0	HR	2	M			
	85-90	lms	10YR54 00					0	0	HR	35	M		IMP GRAVEL	
P	0-23	mc1	10YR41 00					2	0	HR	5				
	23-40	mc1	10YR43 00					0	0	HR	35	MDCSAB FR	M		
	40-45	hc1	10YR44 00					0	0	HR	50	M			
	45-120	gh						0	0		0	P			
2	0-30	mc1	10YR43 00					0	0		0				
	30-58	mc1	10YR44 00					0	0	HR	1	M			
	58-85	hc1	10YR54 00	10YR64 00	F			0	0		0	M			
	85-95	sc1	10YR54 00	75YR58 00	C			S	0	0	0	M			
	95-100	hc1	10YR54 00	75YR58 00	C			S	0	0	0	M			
100-120	c	10YR54 00	75YR58 00	C			S	0	0	0	M				
2P	0-32	mc1	10YR43 00					1	0	HR	3				
	32-55	hc1	10YR44 00					0	0	HR	5	MDCSAB FM	M		
	55-60	hc1	10YR54 00					0	0	HR	43	M			
	60-70	c	10YR54 00					0	0	HR	50	M			
	70-75	sc1	10YR54 00					0	0	HR	50	M			
	75-80	lms	75YR46 56					0	0	HR	30	M			
	80-120	ms	75YR46 56					0	0	HR	30	M			
	0-28	mc1	10YR52 61	75YR46 00	C			Y	0	0	HR	1			
	28-38	mc1	10YR42 00					0	0	HR	1	M			
	38-50	hc1	10YR44 00	75YR58 00	C			S	0	0	HR	1	M		
	50-57	c	10YR54 00	75YR58 00	C			S	0	0	HR	35	M		IMP GRAVEL
3P	0-30	mc1	10YR51 00	75YR56 00	C			Y	2	0	HR	3			
	30-55	hc1	10YR53 00	75YR58 00	M			Y	0	0	HR	2	MDCSAB FR	M	Y
	55-77	c	10YR52 00	75YR58 00	M	10YR71 00	Y	0	0	HR	2	WKCSAB FM	P	Y	Y
	77-85	c	10YR61 00	10YR58 00	C			Y	0	0	HR	60	P		Y
	0-38	mc1	10YR42 00					0	0	HR	2				
	38-52	hc1	10YR52 00	75YR58 00	C			Y	0	0	HR	15	M		IMP GRAVEL
5	0-22	mc1	10YR42 00					0	0	HR	1				
	22-38	mc1	10YR52 00	10YR58 00	C	10YR61 00	Y	0	0	HR	1	M			
	38-48	hc1	10YR53 00	75YR58 00	M			Y	0	0	HR	2	M		
	48-80	c	10YR53 00	75YR58 00	M			Y	0	0	HR	2	P	Y	Y
	80-120	ms1	25Y 72 00	75YR58 00	M	25Y 70 00	Y	0	0		0	M			
6	0-25	mc1	10YR42 00					0	0		0				
	25-45	hc1	10YR52 00	75YR58 00	C			Y	0	0	HR	2	M		
	45-50	c	10YR61 00	75YR58 00	M			Y	0	0	HR	2	M		IMP GRAVEL



SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR		IMP
7	0-28	mc1	10YR52 00 75YR56 00 C					Y	0	0	HR	2					
	28-42	hc1	10YR62 00 75YR56 00 C					Y	0	0	HR	2	M				
	42-50	c	10YR53 63 75YR58 00 C				10YR71 00	Y	0	0	HR	10	P	Y		Y	
	50-65	c	10YR53 63 75YR58 00 C				10YR71 00	Y	0	0	HR	25	P	Y		Y	
	65-95	c	10YR53 63 75YR58 00 C				10YR71 00	Y	0	0	HR	10	P	Y		Y	IMP GRAVEL
8	0-35	mc1	10YR42 00						0	0	HR	2					
	35-48	mc1	10YR52 00						0	0	HR	2	M				
	48-65	hc1	10YR53 00 10YR71 58 C					Y	0	0		0	M				
	65-75	c	10YR53 00 10YR71 58 C					Y	0	0	HR	15	P	Y			
	75-80	sc1	10YR53 00					Y	0	0	HR	50	M				IMP GRAVEL
9	0-25	mc1	10YR51 00 75YR46 00 M					Y	0	0		0					
	25-45	hc1	10YR51 52 75YR46 00 M					Y	0	0	HR	2	M				
	45-80	c	10YR53 00 75YR58 00 M				10YR71 00	Y	0	0		0	FM	P	Y		Y
	80-105	c	25Y 72 00 75YR58 00 M				25Y 70 00	Y	0	0	HR	5	P	Y		Y	
	105-120	c	25Y 72 00 75YR58 00 M				25Y 70 00	Y	0	0	HR	20	P	Y		Y	
10	0-33	mc1	10YR52 00 75YR58 00 C					Y	0	0	HR	1					
	33-40	hc1	10YR53 00 75YR58 00 M				10YR63 00	Y	0	0		0	M				
	40-52	hc1	10YR53 00 75YR58 00 M				00MN00 00	Y	0	0	HR	5	M				
	52-75	c	10YR53 00 75YR58 00 M				00MN00 00	Y	0	0	HR	2	P	Y		Y	IMP GRAVEL
11	0-30	mc1	10YR42 00						0	0	HR	1					
	30-45	mc1	10YR43 00						0	0	HR	1	M				
	45-68	mc1	10YR53 00 10YR58 00 C				10YR72 00	Y	0	0		0	M				
	68-80	hc1	10YR72 00 75YR58 00 C					Y	0	0		0	M				
	80-99	ms1	10YR62 00 75YR58 00 C				10YR72 00	Y	0	0		0	M				IMP GRAVEL
12	0-35	mc1	10YR42 00 10YR58 00 F						0	0	HR	2					
	35-45	mc1	10YR43 00						0	0	HR	2	M				
	45-50	mc1	10YR44 00						0	0	HR	1	M				
	50-55	mc1	10YR53 54						0	0	HR	15	M				IMP GRAVEL
13	0-28	mc1	10YR43 00						0	0	HR	5					
	28-52	hc1	10YR44 00						0	0	HR	5	M				IMP GRAVEL
14	0-38	mc1	10YR42 00						0	0	HR	4					
	38-45	mc1	25 Y62 00 10YR58 00 C					Y	0	0	HR	10	M				
	45-50	c	10YR53 00 75YR58 00 C					Y	0	0	HR	10	M				
	50-52	sc1	10YR53 00 75YR58 00 C					Y	0	0	HR	45	M				IMP GRAVEL
15	0-30	mc1	10YR42 00 75YR58 00 C					Y	0	0	HR	1					
	30-70	hc1	10YR52 00 75YR58 00 C				10YR61 00	Y	0	0	HR	1	M				
	70-88	c	10YR53 00 75YR58 00 M					Y	0	0	HR	2	P			Y	
	88-110	hc1	10YR53 00 75YR58 00 M					Y	0	0	HR	2	M				
	110-120	c	10YR71 00 75YR58 00 M					Y	0	0	HR	10	P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED	----STONES----				STRUCT/	SUBS					
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
15A	0-30	mc1	10YR51 00 75YR58 00 C					Y	0	0	HR	1						
	30-40	hc1	10YR51 00 75YR58 68 M					Y	0	0	HR	1		M				
	40-70	c	10YR51 00 75YR68 00 M					Y	0	0	HR	1		P		Y		
	70-82	c	10YR51 00 75YR68 00 M					Y	0	0	HR	15		P		Y		IMP GRAVEL
16	0-28	mc1	10YR42 00						0	0	HR	2						
	28-45	hc1	10YR42 52						0	0	HR	15		M				
	45-70	hc1	10YR42 41						0	0	HR	5		M				
	70-80	lms	10YR63 00						0	0	HR	10		M				
	80-95	lcs	10YR63 00						0	0	HR	10		M				IMP GRAVEL
17	0-25	mc1	25Y 42 00 75YR46 00 C						Y	0	0	HR	1					
	25-100	hc1	25Y 42 00 75YR46 00 M				00M00 00	Y	0	0	HR	1		M				IMP GRAVEL
18	0-25	mc1	10YR43 00						0	0	HR	1						
	25-38	mc1	10YR42 00 75YR56 00 C					Y	0	0	HR	1		M				
	38-58	hc1	10YR44 00 75YR58 00 C					S	0	0	HR	1		M				
	58-65	hc1	10YR44 00 75YR58 00 C					S	0	0	HR	10		M				
	65-70	c	10YR44 00 75YR58 00 C					S	0	0	HR	25		M				IMP GRAVEL
	0-38	mc1	10YR42 00						0	0	HR	1						
	38-58	hc1	10YR44 00						0	0		0		M				
	58-85	c	10YR44 00 75YR56 00 C					S	0	0		0		M				
	85-98	ms1	10YR54 00 75YR56 00 C					S	0	0	HR	2		M				IMP GRAVEL
20	0-35	mc1	10YR43 00						0	0	HR	1						
	35-55	hc1	10YR44 00						0	0	HR	10		M				
	55-65	hc1	10YR44 54						0	0	HR	10		M				
	65-78	sc1	10YR54 00						0	0	HR	15		M				
	78-85	lms	10YR54 00						0	0	HR	15		M				
	85-90	ms	25 Y54 00						0	0	HR	15		M				
	90-105	sc1	10YR54 00						0	0	HR	15		M				
	105-120	hc1	10YR44 00						0	0	HR	15		M				
21	0-39	mc1	10YR43 00						0	0	HR	3						
	39-70	mc1	10YR44 00						0	0	HR	1		M				
	70-80	hc1	10YR44 54						0	0	HR	1		M				IMP GRAVEL
22	0-35	mc1	10YR43 00						0	0	HR	1						
	35-45	hc1	10YR44 00						0	0	HR	1		M				
	45-60	c	10YR54 00 10YR58 00 F				00M00 00		0	0		0		M				
	60-90	c	10YR54 00 75YR58 00 C					S	0	0		0		M				
	90-120	c	10YR52 00 75YR58 68 M					Y	0	0	HR	2		P		Y		
23	0-35	mc1	10YR42 00						0	0	HR	1						
	35-58	hc1	10YR44 00						0	0	HR	1		M				
	58-82	c	10YR54 00 75YR58 00 C					S	0	0	HR	3		M				IMP GRAVEL

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/	SUBS	IMP	SPL	CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT			
24	0-38	mc1	10YR42 00					0	0	HR	1				
	38-48	hc1	10YR54 00					0	0	HR	1	M			
	48-68	c	10YR54 00	10YR58 00	C			S	0	0	HR	3	M		
	68-80	hc1	10YR53 00	75YR58 00	M			Y	0	0	HR	15	M	IMP GRAVEL	
25	0-35	mc1	10YR43 00					0	0	HR	1				
	35-54	hc1	10YR44 00	75YR58 00	F			0	0	HR	1	M			
	54-80	c	10YR44 54	75YR58 00	C			S	0	0	HR	1	M		
	80-88	ms1	10YR53 00					S	0	0	HR	5	M	IMP GRAVEL	
26	0-38	mc1	10YR43 00	10YR58 00	F			0	0	HR	1				
	38-70	hc1	10YR44 00					0	0		0	M			
	70-80	c	10YR44 00	10YR58 00	F			0	0		0	M			
	80-105	ms1	10YR54 00	10YR58 00	F			0	0		0	M		IMP GRAVEL	
27	0-35	mc1	10YR43 00					0	0	HR	1				
	35-48	hc1	10YR44 00					0	0	HR	1	M			
	48-70	hc1	10YR54 00	75YR58 00	C			S	0	0	HR	1	M		
	70-85	hc1	10YR54 00	75YR58 00	C			S	0	0	HR	10	M		
	85-88	lms	10YR53 00					S	0	0	HR	45	M	IMP GRAVEL	
27A	0-35	mc1	10YR42 00	75YR58 00	C		10YR72 00	Y	0	0	HR	5			
	35-78	mc1	10YR52 00	75YR58 00	C		10YR61 00	Y	0	0	HR	1	M		
	78-82	c	10YR53 00	75YR68 00	M			Y	0	0	HR	1	P	IMP GRAVEL	
28	0-30	mc1	10YR43 00					0	0	HR	2				
	30-42	mc1	10YR43 53					0	0	HR	5	M			
	42-45	mc1	10YR43 53					0	0	HR	35	M		IMP GRAVEL	
28A	0-30	mc1	10YR43 00					0	0	HR	1				
	30-48	hc1	10YR43 00					0	0	HR	15	M			
	48-60	hc1	10YR42 00	75YR56 00	F			S	0	0	HR	25	M		
	60-80	hc1	10YR42 00	75YR56 00	F			S	0	0	HR	5	M		
	80-98	mc1	10YR72 00	10YR58 00	C		10YR71 00	Y	0	0	HR	2	M		
	98-100	hc1	10YR72 00	10YR58 00	M		10YR71 00	Y	0	0	HR	5	M	IMP GRAVEL	
29	0-33	mc1	10YR43 00					0	0	HR	1				
	33-60	hc1	10YR44 00					0	0	HR	1	M			
	60-78	mc1	10YR54 00					0	0	HR	1	M			
	78-80	hc1	10YR54 00					0	0	HR	35	M		IMP GRAVEL	
30	0-35	mc1	10YR42 00					0	0	HR	1				
	35-48	hc1	10YR44 00					0	0		0	M			
	48-75	c	10YR54 00	10YR58 00	C			S	0	0	HR	1	M		
	75-82	hc1	10YR54 00	10YR58 00	C			S	0	0	HR	15	M	IMP GRAVEL	
31	0-28	mc1	10YR42 00					0	0	HR	1				
	28-38	hc1	10YR42 00					0	0	HR	1	M			
	38-50	hc1	10YR54 00	10YR58 00	F			0	0	HR	1	M			
	50-55	c	10YR54 00	10YR58 00	C			S	0	0	HR	15	M	IMP GRAVEL	

MPL	DEPTH	TEXTURE	COLOUR	----MOTTLES----- PED			----STONES-----			STRUCT/	SUBS												
				COL	ABUN	CONT	COL.	GLE	>2				>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC		
32	0-32	mc1	10YR43 00							0	0	HR	1										
	32-45	hc1	10YR43 00							0	0	HR	1									M	
	45-65	hc1	10YR44 00							0	0	HR	5									M	
	65-68	hc1	10YR44 00							0	0	HR	45									M	IMP GRAVEL
33	0-35	mc1	10YR43 00	10YR58 00 C			10YR72 00 S			0	0	HR	1										
	35-85	mc1	10YR44 00							S	0	0	HR	1								M	
	85-90	ms1	10YR53 00							S	0	0	HR	45								M	IMP GRAVEL
34	0-28	mc1	10YR43 00	75YR58 00 F						0	0	HR	1										
	28-38	mc1	10YR43 00							0	0	HR	3									M	
	38-60	mc1	10YR42 00							0	0	HR	35									M	
	60-68	mc1	10YR42 00							0	0	HR	50									M	IMP GRAVEL
35	0-28	mc1	10YR42 00							0	0	HR	5										
	28-58	mc1	10YR52 00							0	0	HR	30									M	
	58-60	lms	10YR52 00							0	0	HR	45									M	IMP GRAVEL
36	0-35	mc1	10YR43 00							0	0		0										
	35-50	hc1	10YR44 54							0	0	HR	1									M	
	50-62	hc1	10YR54 00							0	0	HR	25									M	IMP GRAVEL
37	0-35	mc1	10YR42 00							0	0	HR	1										
	35-55	hc1	10YR43 00							0	0	HR	1									M	
	55-80	c	10YR44 00	10YR58 00 F						0	0	HR	1									M	
	80-95	hc1	10YR54 00	75YR58 00 C					S	0	0	HR	1									M	
	95-98	c	10YR54 00	75YR58 00 M					S	0	0	HR	35									M	IMP GRAVEL
38	0-38	mc1	10YR42 00							0	0	HR	1										
	38-48	hc1	10YR42 00							0	0	HR	1									M	
	48-65	c	10YR44 00	10YR58 00 F						0	0	HR	1									M	
	65-82	c	10YR44 00	10YR58 00 C					S	0	0	HR	1									M	
	82-85	c	10YR54 00	10YR58 00 C					S	0	0	HR	35									M	IMP GRAVEL
39	0-28	mc1	10YR42 00							0	0	HR	1										
	28-45	hc1	10YR53 00	75YR58 00 C					Y	0	0	HR	1									M	
	45-65	mc1	25Y 52 51	75YR58 00 C					Y	0	0	HR	3									M	
	65-95	ms1	10YR72 00	10YR58 71 C					Y	0	0	HR	3									M	
	95-100	lms	10YR72 00	10YR58 71 C					Y	0	0	HR	3									M	IMP GRAVEL
40	0-35	mc1	10YR43 00							0	0	HR	5										
	35-45	mc1	10YR43 00							0	0	HR	40									M	
	45-65	lms	10YR52 00							0	0	HR	30									M	
	65-80	ms1	10YR52 00							0	0	HR	5									M	
	80-88	ms1	10YR52 00							0	0	HR	20									M	IMP GRAVEL
41	0-35	mc1	10YR43 00							0	0	HR	1										
	35-70	hc1	10YR54 00							0	0		0									M	
	70-75	c	10YR54 00							0	0	HR	30									M	IMP GRAVEL

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SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/	SUBS	IMP	SPL	CALC
				COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT			
42	0-32	mc1	10YR43 00					0	0	HR	2				
	32-47	hc1	10YR44 00					0	0	HR	5	M			IMP GRAVEL